

Amendments to the Drawings:

The attached drawing sheet includes a formal drawing of Figure 3. No changes have been made to the drawing other then designating the drawing as prior art.

Attached: Replacement Drawing

Annotated Sheet Showing Changes

REMARKS/ARGUMENTS

The Applicant acknowledges, with thanks, the office action dated July 14, 2009. Claims 1-7 are currently pending.

Non-Art Matters

The drawings have been objected to for various informalities. Accordingly, the drawings have been amended to address the objection.

Claims 1, 3, 4, 5, and 6 have been objected to for various informalities. Accordingly, claims 1, 3, 4, 5, and 6 have been amended to correct the informalities objected to by the Examiner.

Claims 1-7 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Accordingly, the claims have been amended to address the rejections. The terms “rotator” and “annular rotator” were incorrectly translated from foreign application PCT/CN03/00862. Pursuant to the telephonic discussion with the Examiner on October 5, 2009, “rotator” and “annular rotator” have been replaced, in the claims and in the specification, with the terms “axisymmetric body” and “annular axisymmetric body,” according to the correct translation. No new matter has been added as these terms are disclosed in the foreign application to which the present application claims priority.

Regarding the term “polyline,” applicant respectfully submits that it is commonly understood, in the industry, as well as described in the specification, that a polyline is a continuous line made up of one or more line segments (¶6).

Prior-Art Matters

Claims 1-5 and 7 were rejected under 35 U.S.C. §102(b) as being anticipated over U.S. Patent No. 3,523,762 to Broughton. Claims 1, 2, 5, and 7 were rejected under 35 U.S.C. §103(b) as being anticipated over U.S. Patent No. 5,741,466 to Bodnaras. Claim 6 was rejected under 35 U.S.C. §103(a) as being unpatentable over Bodnaras.

Claim 1, as currently amended, recites a multiphase reactor configured to facilitate contact between a first fluid and a second fluid, comprising a reactor shell. A rotary build-in member comprises an axisymmetric body and an annular axisymmetric body. The rotary build-in member is installed inside the reactor shell. The axisymmetric body and the annular axisymmetric body are formed by rotating a single curved line, as a generatrix, with the exception of a straight line, around the axis.

By contrast, Broughton teaches a baffled chamber for a plurality of contact beds to preclude fluid flow. A circular chamber has spaced apart contact beds (column 4, lines 48-50). In the spaces between the contact beds are baffling means providing a passage for fluids (column 4, lines 51-66). The Office Action relies on the baffling means to teach an axisymmetric body and an annular axisymmetric body. However, Broughton does not teach or suggest the multiphase reactor configured to facilitate contact between two fluids as in claim 1. To the contrary, Broughton teaches the reactor facilitating contact between a fluid and a solid (column 2, lines 10-11). The claim is directed to having two or more fluids continuously change the velocity and direction of flow so as to have them contact and react sufficiently. Broughton does not teach or suggest two fluids making contact in the reactor.

Additionally, Broughton does not teach or suggest that the axisymmetric body and the annular axisymmetric body, or baffling means, is formed by rotating a single curved line around an axis. According to Broughton, the baffling means has an upper concave portion and a lower convex portion (column 4, lines 51-55). If a single curved line were to be used to form the baffling means, both the upper and lower portion would either be concave or convex. It is not possible to form both a concave and a convex portion of a baffling means by rotating a single curved line around an axis. Thus, the upper and lower portions of the balling means must be formed by rotating at least two curved lines around an axis, rather then rotating a single curved line around an axis as in claim 1. Therefore Broughton does not teach or suggest each and every element of independent claim 1. Thus, withdrawal of the rejection of claim 1 is respectfully requested.

Claims 2-7 depend directly from claim 1 and therefore contain each and every element of claim 1. Therefore, for the reasons set forth for claim 1, withdrawal of rejections of claims 2-7 is respectfully requested.

Also in contrast to claim 1, Bodnaras teaches a multiphase staged passive reactor. The reactor has a plurality of stages defining a flow path for a first and second substance, each stage being shaped to define a substantially curved flow path having a center of curvature located to one side of the flow path. Adjacent stages have a respective center of curvature on opposite sides of the flow path whereby, in use, as the substances flow through the reactor particles of the second substance are forced to migrate through the first substance, first in one direction and then in substantially the reverse direction to promote interphasic interaction. However, Bodnaras does not teach or suggest an annular axisymmetric body being settled **on** the reactor shell as is taught in claim 1. Instead, Bodnaras teaches the inner core being mounted coaxially on a central shaft **inside** the inner shell (Figure 4 and paragraph 6, lines 2-5). Therefore, like Broughton, Bodnaras does not teach or suggest each and every element of independent claim 1. Thus, withdrawal of the rejection of claim 1 is respectfully requested.

Claims 2-7 depend directly from claim 1 and therefore contain each and every element of claim 1. Therefore, for the reasons set forth for claim 1, withdrawal of rejections of claims 2-7 is respectfully requested.

Conclusion

Withdrawal of the rejections to this application is requested for the reasons set forth and a Notice of Allowance is earnestly solicited. If there are any fees necessitated by the foregoing communication, the Commissioner is hereby authorized to charge such fees to our Deposit Account No. 50-0902, referencing our Docket No. 78199/00002.

Date: 10/14/09

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Respectfully submitted,

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